

University of North Texas (UNT)
Mathematics and Science Initiative

Activity: Mathematics and Science Teacher Professional Development

Goal area of the activity: Improving teacher quality

Summary of work

Faculty in the Departments of Biology, Physics, Chemistry, and Mathematics in the College of Arts and Sciences, in UNT's new College of Engineering, and science and mathematics educators in the College of Education, collaborate in offering programs of professional development to K-12 teachers. Projects are funded by grants from the Texas Education Agency, the Texas Higher Education Coordinating Board, the U.S. Department of Education, and private foundations. Current Title II funded projects include the Genetics Teaching Institute, the Metroplex Project Life, and Teaching Environmental Sciences. The Science and Mathematics (SAM) Teacher Academy, offered in collaboration with Paul Quinn College, focuses on professional development of fifth and sixth grade teachers in high-need urban schools. The Regional Collaboration for Excellence in the Teaching of Physics provides opportunities for middle school students to engage in hands-on inquiries in a physics-rich environment on campus under the mentorship of college role models, and for their teachers to participate in professional development to extend student learning of physics at their home schools. Teachers as Scholars, funded by the Woodrow Wilson National Fellowship Foundation and local partners, involves outstanding UNT science and mathematics faculty in offering two-day seminars that enable teachers to learn about cutting-edge scholarship. Projects of the Institute for Diversity in Engineering and Technology provide curriculum and materials for use by K-12 teachers.

Through an initiative of the Deans of Arts and Sciences and Education, UNT recently added to its faculty a science educator in the Department of Chemistry and a mathematics educator in the Department of Mathematics. Their efforts have increased collaboration to involve Arts and Sciences faculty in teacher professional development and interactions with area mathematics and science teachers.

UNT offers graduate degrees in Curriculum and Instruction that enable science and mathematics educators to complete areas of concentration in their content fields.

Purpose of activity: To offer area K-12 mathematics and science educators high quality professional development focusing on relevant content and content specific pedagogy

Accomplishments/Results

Increased the numbers of external proposals for projects involving research and professional development with and for K-12 teachers of science and mathematics

Added a mathematics educator in the Department of Mathematics

Plans for next 12 months

Through a collaboration between the Colleges of Arts and Sciences and Education, add a faculty coordinator to promote research and development to enhance research and professional development opportunities with K-12 teachers of science and mathematics

Assure that project evaluations attend to the mathematics and science achievement of K-12 students as well as attending to changes in classroom practice